



## *X-Plain™* *Shingles*

### Reference Summary

Shingles is a disease that causes severe pain and blisters in the face or the body. Up to one million Americans are affected every year by shingles.

The same virus that causes chicken pox causes shingles. The disease is also called *herpes zoster*, or *zoster*.

This reference summary explains shingles. It discusses the symptoms, causes, complications, diagnosis, and treatment options of zoster, or shingles.

#### **Chicken Pox**

Shingles is caused by the *varicella-zoster* virus, the same virus that causes chickenpox. After an attack of chickenpox, the virus lies dormant in nerve tissue. Dormant means inactive.

Nerve cells are called neurons. They have a body and a long fiber called an *axon*. Orders from the brain to nerves and sensations going to the brain from nerves travel as electrical signals through axons.

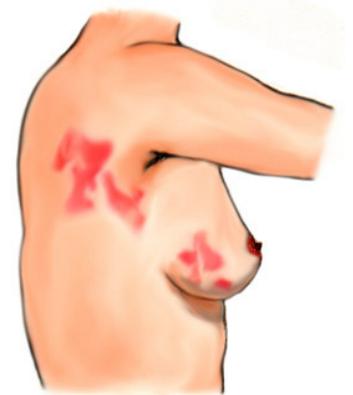
The brain and spinal cord together are called the central nervous system. The central nervous system receives and sends information through the peripheral central nervous system, made up of nerves.

The bodies of some neurons form *ganglia* close to the brain and spinal cord. Ganglia is the plural of *ganglion*. The axons of neurons form the cable-like structure of the nerves that go to the face, chest, abdomen, arms and legs.

The chicken pox virus, *varicella-zoster*, lies dormant in ganglia.

#### **Shingles**

Only people who have had chicken pox can have shingles. After the blisters of chicken pox heal, the zoster virus lies inactive in the ganglia of the nerves.



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As a person gets older, it is possible for the zoster virus to become active again and cause shingles.

The virus travels from the ganglia through the axons and reaches the area of the skin that is served by the neurons.

In the skin, the zoster virus causes a painful outbreak of blisters or a rash.

Although it is most common in people over the age of 50, anyone that has had chickenpox is at risk of developing shingles. About 20% of people who have had chicken pox will get shingles at some time during their lives. Most people who get shingles get them only once.

Shingles is more common in people with weak immune systems. The immune system is the part of the body responsible for fighting off germs and foreign materials.

People who have shingles can transmit the zoster virus to people who have never had chicken pox. However, people who have had chicken pox cannot get shingles from people who have shingles!

## **Causes**

Scientists do not know exactly what causes a dormant zoster virus to become active, duplicate, and travel down the nerves.

Factors such as illness, trauma, and stress are known to trigger or start shingles.

People with a weak immune system are more likely to develop shingles. The following conditions are associated with a weak immune system:

- AIDS or HIV infection
- Radiation therapy
- Surgery
- Chemotherapy

Moreover, people with a weak immune system that do not have the zoster virus are more likely to get it from a person who has shingles.

## **Symptoms**

The first sign of shingles is pain that comes 1-3 days before the rash appears. The pain is generally on one side of the body or face, following a specific nerve.

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Shingles pain is a burning or shooting pain that includes tingling or itching. It can be severe enough to require pain medication. Some patients, however, do not experience that excruciating pain.

A few days after the pain starts, a red rash appears at the site of the nerve. Fever or headache may accompany the rash.

The rash turns into blisters that are very similar to those of chicken pox. The blisters remain from 1 to 14 days. They are more common on the chest, back, abdomen and buttocks, but may also appear on the face, arms, or legs.

Before they disappear, the blisters scab over, as pus and dark blood collects in them. Usually no scarring is left when the blisters disappear.

### **Complications**

If shingles appears on the face, complications with hearing and vision may follow. For instance, if shingles affects the eye, the cornea can become infected and lead to temporary or permanent blindness.

Shingles can spread all over the body. They can also spread to internal organs, where serious damage may occur such as

- partial facial paralysis, usually temporary
- ear damage
- inflammation of the brain called *encephalitis*

Shingles blisters can get infected, which may delay healing. Antibiotics can be prescribed to treat the infection. It is best not to scratch the blisters open and to follow good hygiene.

Most patients who have shingles get it once in their lifetime. Those with a weak immune system may get it more often.

### **Diagnosis**

Doctors diagnose shingles by the way the blisters look and the history of pain before the rash.

The doctor may scrap a blister and send it to a pathologist to examine under a microscope to confirm the diagnosis.

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## **Treatment**

For many patients, shingles clears up on its own in a few weeks without medication. Painkillers can be used to relieve pain and cold compresses can help dry the blisters.

Rarely, some patients experience severe pain for weeks, months, or years after the blisters have disappeared. This condition is called *post-herpetic neuralgia*

When diagnosed early, doctors can prescribe medications to fight viruses. This is especially important when shingles affects the eyes. The earlier viruses are treated, the faster recovery is and the less the likelihood of post-herpetic neuralgia occurring.

If pain is severe, the doctor may recommend a nerve block to control the pain. A nerve block is medication given by injection to numb the nerve affected by shingles.

Antidepressant and anticonvulsant medications can be helpful to treat pain resulting from post-herpetic neuralgia.

## **Summary**

Shingles is a disease that causes severe pain and blisters in the face or the body. Only people who have had chicken pox can get shingles.

The blisters of shingles usually resolve on their own. Antiviral medications are available to speed up the process.

Shingles may have complications but they are rare. Thanks to medical advances, options exist to treat these complications!